

Title (en)  
Filter cartridge for liquid filtration

Title (de)  
Filterpatrone für die Filtration von Flüssigkeiten

Title (fr)  
Cartouche de filtration pour la filtration d'un liquide

Publication  
**EP 2301646 B1 20130605 (EN)**

Application  
**EP 10182710 A 20050404**

Priority  
• EP 05733040 A 20050404  
• US 56204504 P 20040413

Abstract (en)  
[origin: US2005224407A1] A liquid filter cartridge is provided. Preferred seal arrangements are provided, to provide for preferred axial load conditions, with respect to one or more of the end caps of the cartridge. Some cartridge configurations provided include no core structure or outer liner structure therein, to support axial load. Assemblies using the cartridge, and methods of assembly and use, are provided. The liquid filter cartridge can be a serviceable cartridge, or it can be retained permanently in a housing.

IPC 8 full level  
**B01D 29/21** (2006.01); **B01D 29/23** (2006.01); **B01D 35/147** (2006.01); **B01D 35/30** (2006.01); **B01D 63/06** (2006.01); **B01D 65/00** (2006.01)

CPC (source: EP KR US)  
**B01D 29/016** (2013.01 - US); **B01D 29/21** (2013.01 - EP KR US); **B01D 29/232** (2013.01 - EP US); **B01D 29/31** (2013.01 - EP US); **B01D 35/147** (2013.01 - EP US); **B01D 35/153** (2013.01 - EP US); **B01D 35/16** (2013.01 - EP US); **B01D 35/30** (2013.01 - EP KR US); **B01D 35/306** (2013.01 - US); **B01D 63/067** (2013.01 - EP US); **B01D 65/003** (2013.01 - EP US); **B01D 2201/12** (2013.01 - EP US); **B01D 2201/291** (2013.01 - EP US); **B01D 2201/302** (2013.01 - EP US); **B01D 2201/304** (2013.01 - EP US); **B01D 2201/305** (2013.01 - EP US); **B01D 2201/34** (2013.01 - EP US); **B01D 2201/347** (2013.01 - US); **B01D 2313/21** (2013.01 - EP US); **B01D 2313/44** (2013.01 - EP US)

C-Set (source: EP US)  
1. **B01D 29/21 + B01D 29/31**  
2. **B01D 35/147 + B01D 35/30**  
3. **B01D 35/147 + B01D 35/153 + B01D 35/16**

Designated contracting state (EPC)  
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)  
**US 2005224407 A1 20051013; US 8167142 B2 20120501**; AU 2005233108 A1 20051027; AU 2005233108 B2 20110310; BR PI0509792 A 20071023; BR PI0509792 B1 20171219; CN 100556496 C 20091104; CN 101810959 A 20100825; CN 101810959 B 20121114; CN 1964769 A 20070516; EP 1753518 A1 20070221; EP 1753518 B1 20120912; EP 2301646 A1 20110330; EP 2301646 B1 20130605; JP 2007532306 A 20071115; JP 2011143405 A 20110728; JP 4922923 B2 20120425; JP 5161987 B2 20130313; KR 20070011489 A 20070124; MX PA06011808 A 20061215; US 10758847 B2 20200901; US 11491423 B2 20221108; US 2012118812 A1 20120517; US 2013264275 A1 20131010; US 2015136685 A1 20150521; US 2018193776 A1 20180712; US 2020330904 A1 20201022; US 8453848 B2 20130604; US 9180390 B2 20151110; US 9895632 B2 20180220; WO 2005099861 A1 20051027; ZA 200608479 B 20080827

DOCDB simple family (application)  
**US 9824205 A 20050404**; AU 2005233108 A 20050404; BR PI0509792 A 20050404; CN 200580015830 A 20050404; CN 200910170293 A 20050404; EP 05733040 A 20050404; EP 10182710 A 20050404; JP 2007508381 A 20050404; JP 2011037497 A 20110223; KR 20067023749 A 20061113; MX PA06011808 A 20050404; US 2005011256 W 20050404; US 201113282967 A 20111027; US 201313905267 A 20130530; US 201414543023 A 20141117; US 201715840819 A 20171213; US 202016918607 A 20200701; ZA 200608479 A 20061011